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ABSTRACT

A study examined the usefulness of two rules of syllabification: (1) if the first vowel or vowel digraph in a word is followed by two consonants that are not parts of a consonant digraph, the first syllable ends with the first of the two consonants, such as, nor-mal; and (2) if the first vowel or vowel digraph in a word is followed by a single consonant, that consonant usually begins the second syllable, such as, so-lo. Using 16,620 words from the "Scott Foresman Advanced Dictionary," the study concluded that the chances of correctly syllabifying all the words in the language containing vowel-consonant-consonant-vowel (VCCV) patterns are 43%, using rule one. Also, the chances of correctly syllabifying all of the words in the language containing VCV patterns are 32%, using rule two. Finally, the chances of correctly syllabifying all two-syllable words in the language are 39%, using both rules as they apply. It is clear that these rules, even in their best form, should not be taught. For syllabification, pronunciation, and definition, the dictionary is the best source. (SRT)

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A STUDY OF THE USEFULNESS OF TWO SYLLABIFICATION RULES

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Most of the reading programs today, as for the past 30 or more years, have as their major emphasis, a heavy phonic analytic program. In fact, the first three years of most reading programs are called the basic skills program, and generally that means phonics, with varying small amounts of structural analysis, and according to Dolores Durkin (1979 and 1981), practically nothing on comprehension.

With the exception of one-syllable words (of which there are some 3,995 in a dictionary listing 138,000 words), all other words require correct syllabification before one can apply any of the phonics rules dealing with vowels, and even some of those dealing with consonants.

There are three ways of dealing with the task of syllabification. The first way involves making use of the dictionary to locate the syllables. This has 100% accuracy, but is least frequently used.

A second method involves pronouncing the word by "mouthfuls" as I have heard teachers say, each "mouthful segment" being a syllable. This method is rather popular, but an unrealistic, highly arbitrary, and very unsuccessful method. First of all, if one can pronounce the word, there really isn't any need for syllablizing it in order properly to apply phonics rules to figure out the pronunciation. In addition, for tens of thousands of words, the syllabification for pronunciation is quite different from the actual correct syllabification. It tends to assign equal accent to all syllables, and therefore causes mispronunciation of many vowels. There are also thousands of other words in

which there is no corresponding "vowel sound" for some of the vowel letters, e.g., littler (lit'lr) and tenant (ten'nt), and others with a vowel sound but no vowel, e.g., pessimism (pes'uh miz um), making such words as these sound as though they have fewer or more syllables respectively than they actually do.

The third method involves learning and applying certain syllabification rules, the number of which vary. I remember an exhibitor selling a set of nine syllabification rules at the Seventh Annual IRA Plains Regional Conference in Minneapolis in 1979. At least two such rules are almost universally taught and children are expected to use them. The usual wording of these is as follows:

1. If the first vowel in a word is followed by two consonants, the first syllable ends with the first of the two consonants, e.g., nor/mal (VC/CV).

2. If the first vowel in a word is followed by a single consonant, that consant usually begins the second syllable, e.g., so/lo (V/VC).

This was the wording used by all five of the persons mentioned in the previous research reported herein. These two rules are the subject of the new research reported in this article.

After some initial progress in the present research, it became apparent that there was a problem of what to do with words containing consonant digraphs and vowel digraphs if the above wording were used. There were many words to which it was doubtful as to how, or if, the rules applied. After some analysis, and consulting with several colleagues, the rules were reworded so that these problems were minimized. Then the study was

started over. The rules as reworded are:

1. If the first vowel or vowel digraph in a word is followed by two consonants that are not parts of a consonant digraph, the first syllable usually ends with the first consonant (VC/CV).

2. If the first vowel or vowel digraph in a word is followed by a single consonant, that consonant usually begins the second syllable (V/CV).

You will note that so reworded, a consonant digraph is considered as a single consonant, a vowel digraph as a single vowel. This is realistic. Also, as reworded, the rules applied to many words, which otherwise would have been non-conforming, and that increased their utility somewhat.

Sometimes one sees one or both of these rules written in terms of consonant sounds and vowel sounds, which addresses the same problem. When such wording is used, one frequently finds another rule that does not split two consonant letters that relate to one sound, as in the words, matter and supper, (as compared to suggest and access, where each of the two consonants relate to a different sound). Whether the two consonant letters begin the next, or end the last syllable, is not always agreed upon. In addition, when rules are in terms of sounds, one has to know quite a bit, if not everything, about the pronunciation of a word to syllabize it. It is rather unrealistic to need to know that much of the pronunciation of a word in order to begin the process of figuring out its pronunciation. Because of that, the sounds terminology was not used, but the rules were reworded as indicated.

Considerable previous research has been done on the utility of these rules. Presenting brief but essential information about these studies seems in order, before presenting their results in Tables I and II.

Clymer (1961 and 1963) used lists of 2600 plus words from grades one through four basic reader vocabularies and Gates Reading Vocabulary. Bailey (1967) used 5773 words taken from eight basic series, grades one through six. Emans (1967) used a ten percent random sample of the words rated fifth grade and above from Thorndike and Lorge's Teachers Wordbook of 30,000 Words. Dzama (1975) used a list of 2025 words from a random sample of the acquired sight vocabulary of 225 first graders. Bieri (1977) used a list of 1495 words from Feinstein's Programmed College Vocabulary 3600.

The findings of the above researchers are shown in Table I, which follows:

Table I
Utility of Syllabification Rule #1
(CV/VC) as Reported in Previous Research

Researcher	Total # of VC/CV Patterns in Sample	# of Words Not Conforming to Rule	# of Words Conforming to Rule	Percent of Utility
Clymer (1961)	573	161	412	72%
Clymer (1963)	563	158	405	72%
Bailey (1967)	1689	372	1317	78%
Emans (1967)	811	162	649	80%
Dzama (1975)	443	115	328	74%
Bieri (1978)[1]	"over 20"	-	-	98%

[1]Bieri did not report specific numbers, only percent of utility, and "over twenty" total words.

Table II
Utility of Syllabification Rule #2
(V/CV) as Reported in Previous Research

Researcher	Total # of V/CV Patterns in Sample	# of Words Not Conforming to Rule	# of Words Conforming to Rule	Percent of Utility
Clymer (1961)	327	167	160	49%
Clymer (1963)	427	329	188	44%
Bailey (1967)	1283	645	6380	50%
Emans (1967)	659	349	310	47%
Dzama (1975)	321	173	148	46%
Bieri (1978)[1]	-	"less than 20"	-	46%

[1]Bieri reported only percent of utility, and for this rule, that he located less than 20 words.

In the research done for this study, the source of words was the Scott Foresman Advanced Dictionary, by Thorndike and Barnhart. All of the 100,000 plus entries, and the inflected forms shown in bold face type, were used. The words for the samples were limited to the two syllable words, all of which were used.

The words were listed as syllabified in the dictionary on two lists for each rule, one for those which conform to the rule, the other for those which did not conform. When the listing was completed, it was entirely re-checked to insure accuracy. The findings of this study are shown in Table III.

Table III

Utility of Syllabification Rules #1 and #2, and Both Combined, as Found in the Study First Reported in this Article

Rule	Total # of Words	# of Words Not Conforming to Rule	# of Words Conforming to Rule	Percent of Utility
#1 (VC/CV)	16,620	9,456	7,164	43.1%
#2 (V/CV)	9,019	6,140	2,879	31.9%
Both combined	25,639	15,596	10,043	39.17%

Accordingly, to the extent a) these 16,620 words with VC/CV patterns accurately are representative of all such words in the language, b) the 9,019 words with V/CV patterns are likewise representative of all such words in the language, and, c) the 25,639

two-syllable words accurately are representative of all two-syllable words in the language, the following conclusions seem warranted:

1. One's chances of correctly syllabifying all the words in the language containing VCCV patterns are 43%, using Rule #1 (VC/CV).

2. One's chances of correctly syllabifying all of the words in the language containing VCV patterns are 32%, using Rule #2 (V/CV).

3. One's chances of correctly syllabifying all two-syllable words in the language are 39%, using both of the rules, as they apply.

With samples as large as those shown in Table III, it safely can be considered that the samples highly accurately represent all of such words in the language, and the conclusions should be considered to be extremely dependable. Also, the first two conclusions can be considered to apply to all polysyllabic words in the language, not just two syllable words. If these results are overwhelming, consider how much more so they are, when you realize that all words of two or more syllables <u>first must correctly be syllabified</u> before you can apply any of the rules of phonics for vowels.

If you use these rules for syllabifying when analyzing words for pronunciation, it means that you will be applying the phonics of vowels on syllables which are much more likely to be wrong than right. The phonics of vowels has enough problems of its own, to make its use questionable.

Other Findings

It was also found that there are many two syllable words which do not look like they are two-syllable words, nor do they turn out to be when the two rules are applied. Information about them follows.

First, there were over 330 words such as client, fluid, vial, truant, etc. which appear to have vowel digraphs or adjacent vowels, and pronounced using the "two vowels go walking" rule. However, they are all two-syllable words, the dividing place being between two vowels.

Second, there were over 550 words (such as touched, strapped, farmed, stretched, etc.) which appear to be two-syllable words. Applying the two rules produces two syllables, but they actually are one-syllable words.

Third, there are several thousand words (such as pressured, succumbed, licensed, breezeways, treasured, etc.) which appear to be three-syllable words. When applying the rules to these words three or more syllables result, but they are two-syllable words.

Fourth, there are several thousand other words in which three or more consonants, which are not part of a consonant digraph, separate the two vowels, (such as deftly, batsman, inclined, etc). The two rules do not help in determining where to divide these. Many words in this category appear to be three-syllable words, but they are only two-syllable words.

The two rules which are the subject of this study could be modified in several more ways to take care of compound words,

consonant blends, tense endings on words ending in consonants, and again in those ending in vowels, vowels followed by three or more consonants, etc. But you'd lose your mind trying to apply them. Further, those modifications again would require you to know all about the structure and pronunciation of the words involved, which isn't very likely for one who is using analytic techniques to figure out their pronunciations.

It should be abundantly clear that these rules, even in their best form, should not be taught. If you need syllables, use the dictionary. It is 100% accurate. And, by the way, it also contains everything else one needs to pronounce a word, also with 100% accuracy. And, of course, the dictionary provides the meanings too, if that should be important in your reading program.

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